REMARKS

Claims 1-16 are all of the pending claims, with claims 1 and 9 being written in independent form. By virtue of this Amendment, Applicants cancel claims 17 and 18 without prejudice of disclaimer.

I. Claim Rejections on Prior Art Grounds:

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being obvious over US 5,974,572 to Weinberg et al. ("Weinberg") in view of US 5,987,242 to Bentley et al. ("Bentley"). Applicants respectfully traverse this rejection in view of the following remarks.

Each of independent claims 1 and 9 recite (albeit in different formats) that (1) each automation object realizes a partial automation solution, and (2) the automation solution is specific to automation technology. According to the amended claims, the automation objects of the automation system, each performs a part of a whole automation solution. Further, the automation solution is performed in the area of automation technology. According to Wikipedia (pertinent pages enclosed), automation or industrial automation is the use of computers to control industrial machinery and processes, replacing human operators. According to Britannica Online (pertinent pages enclosed), automation refers to the application of machines to tasks once performed by human beings or, increasingly, to tasks that would otherwise be impossible. Although the term mechanization is often used to refer to the simple replacement of human labor by machines, automation generally implies the integration of machines into a self-governing system.

The Examiner relies heavily upon the Weinberg reference to teach most of the features of the claimed invention except for an automation object that can be worked on by a number of users in parallel, and therefore looks to the Bentley reference to allegedly teach this feature. This rejection position is not convincing for a couple of reasons.

For argument sake, even if Weinberg's system is considered as an automation system, the output created by the system is a graphical map of a website.[1] That is, a graphical map of a website has nothing to do with "automation technology" as recited in independent claims 1 and 9. This is true even if Weinberg's system generates the

[1] Weinberg column 7 lines 41-43 and 46-48.

graphical maps automatically.

More specifically, and with reference to Figure 8 of Weinberg, the system includes a plurality of objects categorized into six object classes, inclusive of an Astra Object 94, a Site Graph Object 114, an Edges Object 119, an Edge Object 116, a Nodes Object 118, and a Node Object 115.[2] In the broadest sense, each of these objects may realize a part of a solution. For example, the Astra Object 94 may access and manipulate data stored by the Site Graph Object 114. Each Site Graph Object 114 may correspond generally to a map of a website, and may include information about the URL's and links of the website. The site-specific data stored by the Site Graph Object 114 may be contained within and managed by the Edges, Edge, and Node Objects, which are subclasses of the Graph Object. Each Node Object 115 may represent a respective node (URL) of the site map, and each Edge Object 116 may represent a respective link between two URL's (nodes) of the map. Associated with each Node Object and each Edge Object is a set of attributes (not shown) including display attributes which specify how the respective object is to be represented graphically within the site map. For example, each Node Object and each Edge Object may include respective attributes for specifying the color, visibility, size, screen position, and an annotation for the display of the object.[3] Thus, the objects realize partial solutions to generate a graphical map of a website. In contrast, the automation objects of the claimed invention realize partial solutions in automation technology, which as described above refers to the use of computers to control industrial machinery and/or processes.

Turning to the next point, Weinberg discloses objects names allocated to the objects and information data with respect to references in the form of URL's (addresses) and interfaces in the form of links.[4] However, these names, references, interfaces and possibly further information data do ***not*** apply to the objects, but instead to the website scanned by the Astra system. Therefore, it is not the objects of the Astra system which can be viewed, requested or worked on, but the mapped website.

In contrast, the object names and directory entries or information data according to

[2] Weinberg column 19, lines 1-5.
[3] Weinberg column 7, lines 7-25.
[4] Weinberg column 7, lines 8-12.

the claimed invention apply to the automation objects, which can be reviewed and worked on by different users or tools.

As discussed above, Weinberg's system generates graphical maps of websites. For this reason, it is not clear how it could be combined with the system disclosed by the secondary reference to Bentley. In this regard, Applicants respectfully request that the Examiner clarify the details of the alleged combination/modification.

CONCLUSION

In view of the above, reconsideration and allowance of claims 1-16 is earnestly solicited.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Ray Heflin at the telephone number below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,
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Automation

From Wikipedia, the free encyclopedia.

Automation (ancient Greek: = *self dictated*) or **industrial automation** is the use of computers to control industrial machinery and processes, replacing human operators. It is a step beyond mechanization, where human operators are provided with machinery to help them in their jobs. The most visible part of automation can be said to be industrial robotics. Some advantages are repeatability, tighter quality control, waste reduction, integration with business systems, increased productivity and reduction of labour. Some disadvantages are high initial costs and increased dependence on maintenance.

By the middle of the 20th century, automation had existed for many years on a small scale, using mechanical devices to automate the production of simply shaped items. However the concept only became truly practical with the addition of the computer, whose flexibility allowed it to drive almost any sort of task. Computers with the required combination of power, price, and size first started to appear in the 1960s, and since then have taken over the vast majority of assembly line tasks (some food production/inspection being a notable exception).

In most cases specialised hardened computers referred to as PLCs (programmable logic controllers) are used to synchronize the flow of inputs from sensors and events with the flow of outputs to actuators and events. This leads to precisely controlled actions that permit a tight control of the process or machine.

Human-machine interfaces (HMI) are usually employed to communicate to PLCs. e.g.: To enter and monitor temperatures or pressures to be maintained.

Another form of automation that involves computers is called test automation, where computers are programmed to mimic what human testers do when manually testing software applications. This is accomplished by using *test automation tools* to produce special scripts (written as computer programs) that tell the computer exactly what to do in order to run the same manual tests.

Contents

Social issues of automation

Automation raises several important social issues. Among them is automation's impact on employment/unemployment.

Some argue automation leads to higher employment. One author made that case here: When automation was first introduced, it caused widespread fear. It was thought that the displacement of human workers by computerized systems would lead to unemployment (this also happened with mechanization, centuries earlier). In fact the opposite was true, the freeing up of the labor force allowed more people to enter information jobs, which are typically higher paying. One odd side effect of this shift is that "unskilled labor" now pays very well in most industrialized nations, because fewer people are available to fill such jobs leading to supply and demand issues.

Some, such as technocrats, argue the reverse, at least in the long term. First, automation has only just begun and

short-term conditions might partially obscure its long-term impact. For instance many manufacturing jobs left the United States during the early 1990s, but a massive upscaling of IT jobs at the same time offset this as a whole.

It appears that automation does devalue unskilled labour through its replacement with less-expensive machines, however the overall effect of this on the workforce as a whole remains unclear. Today automation of the workforce in the "western world" is quite advanced, yet during the same period the general wellbeing of its citizens has increased dramatically. What role automation played in these changes has not been well studied.

Current social effects of automation

Currently, for manufacturing companies, the purpose of automation has shifted from increasing productivity and reducing costs to increasing quality and flexibility in the manufacturing process. In the last five years major manufacturing companies have shifted focus due to intensifying competition and difficulties working with a low-level skilled workforce.

The old focus on using automation to increase productivity and reduce costs is now being exchanged for the new, because companies are having trouble finding a skilled workforce who can make repairs and manage the machinery. Because manufacturing companies could not find and were having difficulty training people to be highly skilled in managing machinery, they stopped focusing on increasing productivity, because it was putting people out of work. They also switched, because with a low supply of people to manage the new equipment it became too costly of a procedure.

Automation is now applied to increase quality to the manufacturing process, where automation can increase quality substantially. For instance, pistons used to be installed into engines manually. Currently, they are in transition to being installed by machines. This is because the error rate for manual installment was around 1-1.5%, and now it is 0.00001% with automation. They are also implementing automation to operations that may be hazardous to employees, such as casting.

The other major shift in automation is to increase flexibility and convertibility to the manufacturing process. As stated above, automation was previously used to increase productivity and cost efficiency directly to the manufacturing process. Now, manufacturers are trying instead to increase flexibility (for example, the ability to switch from making Product A to making Product B on the same machines on the same production lines).

See also

- Retraining

Useful Books on Automation

- Automation Network Selection (http://isa.org/Template.cfm?Section=Books1&template=/Ecommerce/ProductDisplay.cfm&ProductID=6924)
- The Consumer Guide to Fieldbus Network Equipment for Process Control (http://spitzerandboyes.com/Product/fbus.htm)
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